

TABLE 2.—Free-air resultant winds (meters per second) based on pilot-balloon observations made near 5 a. m. (E. S. T.) during October 1935

[Wind from N=360°, E=90°, etc.]

| Altitude (m)<br>m. s. l. | Albuquerque,<br>N. Mex.<br>(1,554 m) |          | Atlanta,<br>Ga.<br>(309 m) |          | Billings,<br>Mont.<br>(1,088 m) |          | Boston,<br>Mass.<br>(15 m) |          | Cheyenne,<br>Wyo.<br>(1,873 m) |          | Chicago,<br>Ill.<br>(192 m) |          | Cincinnati,<br>Ohio<br>(153 m) |          | Detroit,<br>Mich.<br>(204 m) |          | Fargo,<br>N. Dak.<br>(274 m) |          | Houston,<br>Tex.<br>(21 m) |          | Key<br>West,<br>Fla.<br>(11 m) |          | Medford,<br>Oreg.<br>(410 m) |          | Murfrees-<br>boro, Tenn.<br>(180 m) |          |
|--------------------------|--------------------------------------|----------|----------------------------|----------|---------------------------------|----------|----------------------------|----------|--------------------------------|----------|-----------------------------|----------|--------------------------------|----------|------------------------------|----------|------------------------------|----------|----------------------------|----------|--------------------------------|----------|------------------------------|----------|-------------------------------------|----------|
|                          | Direction                            | Velocity | Direction                  | Velocity | Direction                       | Velocity | Direction                  | Velocity | Direction                      | Velocity | Direction                   | Velocity | Direction                      | Velocity | Direction                    | Velocity | Direction                    | Velocity | Direction                  | Velocity | Direction                      | Velocity | Direction                    | Velocity | Direction                           | Velocity |
| Surface                  | °                                    | 0.7      | °                          | 0.9      | °                               | 2.3      | °                          | 1.4      | °                              | 3.4      | °                           | 1.1      | °                              | 0.6      | °                            | 2.0      | °                            | 1.0      | °                          | 1.7      | °                              | 3.9      | °                            | 0.7      | °                                   | 0.1      |
| 500                      | 18                                   | 0.7      | 102                        | 2.5      | 267                             | 2.3      | 296                        | 1.4      | 289                            | 3.4      | 248                         | 1.1      | 212                            | 2.5      | 245                          | 2.0      | 265                          | 1.0      | 50                         | 1.7      | 60                             | 3.9      | 180                          | 0.7      | 165                                 | 0.1      |
| 1,000                    | 118                                  | 2.7      | 118                        | 2.7      | 281                             | 6.0      | 281                        | 6.0      | 238                            | 5.0      | 238                         | 5.0      | 212                            | 2.5      | 254                          | 5.1      | 243                          | 3.6      | 147                        | 4.6      | 70                             | 9.1      | 198                          | 0.7      | 177                                 | 3.1      |
| 1,500                    | 209                                  | 1.7      | 209                        | 1.7      | 259                             | 5.0      | 290                        | 6.3      | 255                            | 5.7      | 255                         | 5.7      | 261                            | 4.9      | 268                          | 6.6      | 258                          | 4.8      | 162                        | 3.1      | 84                             | 8.6      | 196                          | 1.1      | 206                                 | 3.6      |
| 2,000                    | 250                                  | 2.7      | 252                        | 1.2      | 283                             | 4.5      | 282                        | 8.4      | 264                            | 6.7      | 268                         | 6.8      | 273                            | 7.4      | 279                          | 5.3      | 279                          | 5.3      | 194                        | 2.1      | 82                             | 7.3      | 161                          | 2.0      | 235                                 | 4.3      |
| 2,500                    | 257                                  | 4.9      | 261                        | 1.3      | 288                             | 5.9      | 282                        | 9.2      | 281                            | 4.7      | 265                         | 7.8      | 262                            | 8.0      | 271                          | 8.0      | 272                          | 7.6      | 221                        | 1.0      | 80                             | 5.2      | 238                          | 0.9      | 258                                 | 3.7      |
| 3,000                    | 260                                  | 6.6      | 261                        | 1.3      | 288                             | 5.9      | 277                        | 8.8      | 278                            | 5.9      | 269                         | 7.2      | 274                            | 9.6      | 275                          | 7.7      | 301                          | 8.4      | 263                        | 1.5      | 74                             | 4.3      | 48                           | 0.2      | 270                                 | 4.3      |
| 4,000                    | 260                                  | 6.6      | 279                        | 2.5      | 291                             | 7.3      | 278                        | 9.6      | 283                            | 10.1     | 283                         | 10.1     | 284                            | 7.6      | 278                          | 9.4      | 292                          | 9.7      | 272                        | 1.5      | 88                             | 2.5      | 309                          | 1.1      | 282                                 | 4.3      |
| 5,000                    | 264                                  | 10.2     | 276                        | 4.7      | 292                             | 6.9      | 275                        | 6.1      | 275                            | 6.1      | 339                         | 8.0      | 303                            | 7.8      | 275                          | 7.8      | 292                          | 9.7      | 285                        | 2.6      | 336                            | 3.6      | 298                          | 2.6      |                                     |          |
|                          | 270                                  | 11.0     | 270                        | 11.0     | 284                             | 5.9      | 284                        | 5.9      | 268                            | 6.1      | 268                         | 6.1      | 268                            | 6.1      | 268                          | 6.1      | 268                          | 6.1      | 277                        | 5.0      | 277                            | 5.0      | 277                          | 5.0      | 277                                 | 5.0      |

| Altitude (m)<br>m. s. l. | Newark,<br>N. J.<br>(14 m) |          | Oakland,<br>Calif.<br>(8 m) |          | Oklahoma<br>City, Okla.<br>(402 m) |          | Omaha,<br>Nebr.<br>(306 m) |          | Pearl Har-<br>bor, Terri-<br>tory of<br>Hawaii <sup>1</sup><br>(68 m) |          | Pensacola,<br>Fla. <sup>1</sup><br>(24 m) |          | St. Louis,<br>Mo.<br>(170 m) |          | Salt Lake<br>City, Utah<br>(1,294 m) |          | San Diego,<br>Calif.<br>(15 m) |          | Sault Ste.<br>Marie,<br>Mich.<br>(198 m) |          | Seattle,<br>Wash.<br>(14 m) |          | Spokane,<br>Wash.<br>(603 m) |          | Washing-<br>ton, D. C.<br>(10 m) |          |
|--------------------------|----------------------------|----------|-----------------------------|----------|------------------------------------|----------|----------------------------|----------|---|----------|---|----------|------------------------------|----------|--------------------------------------|----------|--------------------------------|----------|--|----------|-----------------------------|----------|------------------------------|----------|----------------------------------|----------|
|                          | Direction                  | Velocity | Direction                   | Velocity | Direction                          | Velocity | Direction                  | Velocity | Direction   | Velocity | Direction                                 | Velocity | Direction                    | Velocity | Direction                            | Velocity | Direction                      | Velocity | Direction                                | Velocity | Direction                   | Velocity | Direction                    | Velocity | Direction                        | Velocity |
| Surface                  | °                          | 1.3      | °                           | 0.8      | °                                  | 2.6      | °                          | 1.7      | °   | 1.9      | °   | 3.9      | °                            | 0.8      | °                                    | 3.3      | °                              | 1.5      | °  | 0.8      | °                           | 0.7      | °                            | 1.9      | °                                | 0.9      |
| 500                      | 314                        | 1.3      | 36                          | 0.8      | 143                                | 2.6      | 149                        | 1.7      | 13  | 1.9      | 52  | 3.9      | 180                          | 0.8      | 151                                  | 3.3      | 70                             | 1.5      | 104                                      | 0.8      | 164                         | 0.7      | 82                           | 1.9      | 325                              | 0.9      |
| 1,000                    | 295                        | 5.3      | 353                         | 2.1      | 174                                | 7.3      | 204                        | 3.1      | 71  | 2.3      | 102                                       | 5.6      | 193                          | 3.9      | 229                                  | 2.6      | 229                            | 2.6      | 214                                      | 2.4      | 214                         | 2.4      | 198                          | 2.6      | 288                              | 2.7      |
| 1,500                    | 295                        | 5.6      | 344                         | 2.8      | 202                                | 12.2     | 233                        | 4.9      | 64  | 1.5      | 126                                       | 2.6      | 247                          | 5.3      | 357                                  | 1.3      | 357                            | 1.3      | 259                                      | 7.1      | 205                         | 2.5      | 198                          | 2.6      | 294                              | 4.3      |
| 2,000                    | 288                        | 7.8      | 340                         | 2.9      | 225                                | 9.6      | 260                        | 6.0      | 357   | 0.5      | 147                                       | 1.7      | 259                          | 5.6      | 158                                  | 4.5      | 354                            | 1.3      | 275                                      | 7.1      | 220                         | 4.1      | 232                          | 3.9      | 291                              | 4.9      |
| 2,500                    | 286                        | 7.4      | 333                         | 2.3      | 247                                | 8.7      | 294                        | 6.3      | 254   | 1.0      | 49  | 0.9      | 270                          | 7.2      | 195                                  | 4.0      | 358                            | 1.6      | 293                                      | 7.3      | 238                         | 4.5      | 262                          | 4.4      | 286                              | 5.6      |
| 3,000                    | 300                        | 6.2      | 334                         | 3.1      | 262                                | 7.9      | 309                        | 7.2      | 279   | 0.6      | 21  | 1.9      | 285                          | 9.2      | 228                                  | 3.2      | 306                            | 2.0      | 286                                      | 7.8      | 254                         | 6.8      | 273                          | 5.1      | 275                              | 6.2      |
| 4,000                    | 325                        | 2.1      | 325                         | 2.1      | 281                                | 6.1      | 291                        | 8.3      | 252   | 1.2      | 7   | 1.7      | 293                          | 11.4     | 259                                  | 3.1      | 314                            | 2.4      | 280                                      | 4.6      | 268                         | 8.4      | 277                          | 6.6      | 278                              | 8.2      |
| 5,000                    | 325                        | 2.1      | 325                         | 2.1      | 286                                | 5.6      | 293                        | 8.5      | 293   | 8.5      | 321                                       | 2.9      | 298                          | 9.7      | 279                                  | 4.0      | 297                            | 5.5      | 297                                      | 5.5      | 297                         | 5.5      | 297                          | 5.5      | 297                              | 5.5      |
|                          | 305                        | 3.7      | 305                         | 3.7      | 305                                | 3.7      | 305                        | 3.7      | 305   | 3.7      | 305                                       | 3.7      | 305                          | 3.7      | 305                                  | 3.7      | 305                            | 3.7      | 305                                      | 3.7      | 305                         | 3.7      | 305                          | 3.7      | 305                              | 3.7      |

<sup>1</sup> Navy stations.

## RIVERS AND FLOODS

[River and Flood Division, MONTROSE W. HAYES, in charge]

By RICHMOND T. ZOCH

Except for a flood in the Chenango River in New York, there were no floods in the United States during October 1935; the damage from this flood was about \$90,000.

Table of flood stages in October 1935

[All dates in October]

| River and station                | Flood stage      | Above flood stages—<br>dates |     | Crest              |      |
|----------------------------------|------------------|------------------------------|-----|--------------------|------|
|                                  |                  | From—                        | To— | Stage              | Date |
| ATLANTIC SLOPE DRAINAGE          |                  |                              |     |                    |      |
| Chenango: Sherburne, N. Y. ----- | <i>Feet</i><br>8 | 31                           | 31  | <i>Feet</i><br>9.7 | 31   |

## WEATHER OF THE ATLANTIC AND PACIFIC OCEANS

[The Marine Division, W. F. McDONALD in charge]

## NORTH ATLANTIC OCEAN, OCTOBER 1935

By H. C. HUNTER

**Atmospheric pressure.**—The mean pressure was somewhat above normal over most of the North Atlantic area, notably near the Azores, where at Horta it averaged almost a quarter inch higher than normal. The north-eastern portion, however, had pressure lower than normal; Lerwick, in the Shetland Islands, reported one-third of an inch below. There were also very small deficiencies at Bermuda and Turks Island.

The highest barometer reading so far reported from the open North Atlantic was 30.76 inches, on the American steamship *Afoundria*, near 43° N., 21° W., during the forenoon of the 28th. On the 30th the station on Belle Isle noted 30.80 inches; and a vessel in the Gulf of St. Lawrence, 30.83 inches. The lowest reading was 28.03 inches, on the Danish motorship *Oregon*, the afternoon of the 18th, near 60° N., 20° W. No vessel within the influence of any of this month's storms of tropical origin has reported a reading below 28.70 inches.